STATE OF CALIFORNIA EDMUND G. BROWN JR., *Governor*

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

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September 26, 2016

Agenda ID #15184
and
Alternate Agenda ID #15185
Ratesetting

TO PARTIES OF RECORD IN APPLICATION 12-05-020

Enclosed are the proposed decision of Administrative Law Judge (ALJ) Darwin E. Farrar previously designated as the presiding officer in this proceeding and the alternate decision of Commissioner Michael Picker. The proposed decision and the alternate decision will not appear on the Commission's agenda sooner than 30 days from the date they are mailed.

Pub. Util. Code § 311(e) requires that the alternate item be accompanied by a digest that clearly explains the substantive revisions to the proposed decision. The digest of the alternate decision is attached.

When the Commission acts on these agenda items, it may adopt all or part of the decision as written, amend or modify them, or set them aside and prepare its own decision. Only when the Commission acts does the decision become binding on the parties.

Parties to the proceeding may file comments on the proposed decision and alternate decision as provided in Pub. Util. Code §§ 311(d) and 311(e) and in Article 14 of the Commission's Rules of Practice and Procedure (Rules), accessible on the Commission's website at www.cpuc.ca.gov. Pursuant to Rule 14.3, opening comments shall not exceed 25 pages.

Comments must be filed pursuant to Rule 1.13 either electronically or in hard copy. Comments should be served on parties to this proceeding in accordance with Rules 1.9 and 1.10. Electronic and hard copies of comments should be sent to ALJ Farrar att edf@cpuc.ca.gov and Commissioner Picker's advisor, Nicolas Chaset, at nlc@cpuc.ca.gov. The current service list for this proceeding is available on the Commission's website at www.cpuc.ca.gov.

The Commission may hold a Ratesetting Deliberative Meeting to consider this item in closed session in advance of the Business Meeting at which the item will be heard. In

such event, notice of the Ratesetting Deliberative Meeting will appear in the Daily Calendar, which is posted on the Commission's website. If a Ratesetting Deliberative Meeting is scheduled, ex parte communications are prohibited pursuant to Rule 8.3(c)(4)(B).

/s/ RICHARD SMITH for
Karen V. Clopton, Chief
Administrative Law Judge

KVC:jt2

Attachment

ATTACHMENT

DIGEST OF DIFFERENCES BETWEEN ADMINISTRATIVE LAW JUDGE DARWIN FARRAR'S PROPOSED DECISION AND THE ALTERNATE PROPOSED DECISION OF PRESIDENT MICHAEL PICKER

Pursuant to Public Utilities Code Section 311(e), this is the digest of the substantive differences between the proposed decision of Administrative Law Judge Darwin Farrar (mailed on September 26, 2016,) and the proposed alternate proposed decision of President Michael Picker (mailed on September 26, 2016).

The proposed decision denies San Diego Gas and Electric's (SDG&E) application for a Certificate of Public Convenience and Necessity (CPCN) for the South of Orange County Reliability Project (SOCRE), and instead approves a CPCN for the Alternative J project, which was identified through the California Environmental Quality Assessment (CEQA) phase of the proceeding. The alternate proposed decision approves the CPCN for the SOCRE project as proposed in SDG&E's application.

Decision **PROPOSED DECISION OF ALJ FARRAR (Mailed 9/26/16)**

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Application of San Diego Gas & Electric Company (U902E) for a Certificate of Public Convenience and Necessity for the South Orange County Reliability Enhancement Project.	Application 12-05-020 (Filed May 18, 2012)

(See Appendix A for List of Appearances)

DECISION GRANTING CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO THE SAN DIEGO GAS & ELECTRIC COMPANY TO IMPROVE RELIABILITY IN ITS SOUTH ORANGE COUNTY TERRITORY

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DECISION GRANTING CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO THE SAN DIEGO GAS & ELECTRIC COMPANY TO IMPROVE RELIABILITY IN ITS SOUTH ORANGE COUNTY TERRITORY

Summary

Today's decision grants a Certificate of Public Convenience and Necessity to the San Diego Gas & Electric Company (SDG&E) that will allow it to begin work on a project that will ensure safe and reliable service to SDG&E customers in the South Orange County service area. Specifically, while we do not approve the South Orange County Reliability Enhancement Project that SDG&E proposed, we approve project Alternative J - the SCE 230 kV Loop In to Trabuco Substation - which was identified and reviewed in the California Environmental Quality Assessment phase of this proceeding by the staff of the California Public Utilities Commission. Concurrent with our approval of Alternative J, we direct SDG&E to undertake the studies set forth herein to identify any legal and regulatory requirements, specify the system upgrades it foresees, and file an application for the second transformer addition to Alternative J.

As set forth in greater detail below, where the project proposed by SDG&E would provide energy and benefits well in excess of the SDG&E's forecasted demand (which itself appears to overstate likely future demand in the South Orange County area), as approved today, Alternative J has fewer adverse environmental impacts, is expected to provide safe and more than sufficiently reliable service for the foreseeable planning horizon, and will likely come in at a substantially lower costs to ratepayers.

This proceeding is closed.

1. Background

1.1. General

The San Diego Gas & Electric Company (SDG&E) South Orange County service area is located at the northern end of SDG&E's service territory and has more than 129,000 electric customers. This service area represents approximately 10% of SDG&E's total customer load.

In its 2010 - 2011 transmission planning process the California Independent System Operator (CAISO) identified a reliability need in the South Orange County area.[1] According to the CAISO, the reliability need was primarily related to the exceedance of applicable ratings during multiple Category C contingencies as defined in the North American Electric Reliability Corporation (NERC) mandatory transmission planning standards.[2] In accordance with the applicable CAISO guidelines, SDG&E submitted a potential solution to the reliability concern during the 2010 Request Window.[3] SDG&E also identified the need for extensive capital upgrades at the Capistrano 138 kilovolt (kV) substation necessitating a rebuild of the facility.[4] SDG&E's proposed projects highlighted both the CAISO-identified reliability concerns and what SDG&E identified as shortcomings in being able to accommodate planned maintenance and construction outages in the area.

On May 18, 2012, pursuant to Sections 1001, 1002, 1003.5 and 1004 et seq. of the California Public Utilities Code (Pub. Util. Code); the California

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[1] Exhibit CAISO-500 at 8.

[2] Exhibit CAISO-500 at 9.

[3] Exhibit CAISO-500 at 8.

[4] Exhibit CAISO-500 at 8.

Environmental Quality Act (CEQA) of 1970, as amended (California Public Resources Code Section 21000 et seq.); the CEQA Guidelines as set forth in Title 14 of the California Code of Regulations, Sections 15000, et seq.; General Order 131-D, and Rules 2.1, 2.2, 2.3, 2.4, 2.5 and 3.1, et al. of the California Public Utilities Commission (Commission or CPUC) Rules of Practice and Procedure (Rules), SDG&E filed its Application (Application) for a Certificate of Public Convenience and Necessity (CPCN) for the South Orange County Reliability Enhancement (SOCRE) Project. As proposed, the SOCRE Project has an estimated cost of approximately $381 million.[5] According to SDG&E, the SOCRE Project is needed to improve reliability, replace aged equipment, and accommodate future customer load growth in the South Orange County service area.

Protests to SDG&E's Application were filed on June 20, 21, and 22, 2015 by the Office of Ratepayer Advocates (ORA), the City of San Juan Capistrano (SJC), and Forrest Residents Opposing New Transmission Lines (FRONTLINES), respectively.

1.2. The SDG&E Application

SDG&E states that the purpose of the SOCRE Project is to provide increased electric network reliability and reduce the risk of a potential system-wide outage affecting all of SDG&E's customers and substations in the South Orange County area. SDG&E is proposing to rebuild and upgrade the existing aged 138/12 kV Capistrano Substation with a new 230/138/12 kV substation and replace an existing 138 kV transmission line (TL13835) with a new

[5] SDG&E Rebuttal Testimony at 16.

230 kV double-circuit extension between SDG&E's Capistrano and Talega Substations. By adding a new 230 kV double-circuit extension, the SOCRE Project will bring a new 230 kV transmission source into South Orange County for increased capacity and reliability.

According to SDG&E, the SOCRE Project is needed to comply with mandatory NERC, Western Electric Coordinating Council (WECC) and CAISO standards. SDG&E claims to have identified several areas of concern that must be resolved in order for SDG&E to meet its obligation to serve and maintain reliable customer service in the South Orange County service area. SDG&E breaks the SOCRE Project down into the following primary components:[6]

1. Within SDG&E's existing property, build a new 230 kV partially enclosed gas insulated substation at the existing 138/12 kV Capistrano Substation site;
2. Within SDG&E's existing property, relocate, rebuild and expand the existing 138 kV facility with a new partially enclosed gas insulated substation;
3. Relocate, rebuild and expand existing 12 kV facilities within SDG&E's existing Capistrano Substation property;
4. Replace an existing 138 kV transmission line (TL13835) with a new 230 kV double-circuit extension between SDG&E's Capistrano and Talega Substations, described as follows:
    - Within SDG&E's existing Rights of Way build approximately 7.5 miles of new overhead double-circuit 230 kV transmission lines;
    - Acquire new Rights of Way for approximately 0.25 mile of new overhead 230 kV transmission line adjacent to SDG&E's Talega Substation;

[6] SDG&E SOCRE Program Application at 4-5.

- Within SDG&E's existing Vista Montana street easement position, replace 0.36 mile of existing 138 kV underground transmission system with one new 230 kV underground transmission line; and
- Install 0.36 mile in franchise position within Vista Montana Street one 230 kV underground transmission line.

5. Realign existing 69 kV and 138 kV transmission lines near the Talega Substation;
6. Relocate the three existing 138 kV transmission lines from the Capistrano Substation into the new San Juan Capistrano Substation. Loop-in the two 138 kV transmission lines that currently bypass the existing substation into the new San Juan Capistrano Substation. Underground all of the westbound 138 kV transmission line getaways;
7. Install approximately 81 new steel transmission line poles (49 - 230 kV poles, 23 – 138 kV poles, and 9 – 69 kV poles);
8. Remove approximately 86 wood structures/poles, 12 steel poles, and 5 steel lattice towers;
9. Reconfigure the Talega Substation to accommodate the new TL13835 connection; and
10. Undertake other activities required to implement the Proposed Project, including upgrading the communications, controls and relays for corresponding facilities, as required.

According to SDG&E, the SOCRE Project will result in substantial electric service and reliability benefits including increased electric network reliability and the reduction of risk of a potential system-wide outage affecting all of SDG&E's customers and substations in the South Orange County area. In addition to these electric service benefits, SDG&E asserts that the SOCRE Project will increase fire safety within fire-prone areas and reduce the number of overhead electric facilities within specific locations along the SOCRE Project. SDG&E further notes that the SOCRE Project will take place almost entirely

within the footprint of existing facilities and will not introduce electric facilities uses where none currently exist. In particular, recreational and park areas within the SOCRE Project site already include extensive overhead electric transmission and distribution facilities - these existing facilities will be replaced with new facilities and the SOCRE Project will not increase or otherwise affect the use of the recreational/park areas.

1.3. Protest to the SDG&E Application

1.3.1. Office of Ratepayer Advocates (ORA)

ORA's timely filed protest challenges numerous contentions made by SDG&E in support of the proposed project. In particular, ORA questions:

- SDG&E's assertion that the SOCRE Project is needed to reduce the risk of uncontrolled outages for all of South Orange County load. In particular, ORA notes that this is a broadly termed risk and SDG&E failed to establish why the SOCRE Project is a cost-effective approach towards resolving such a broad risk.
- SDG&E's support for its more narrow claim that the SOCRE Project would reduce the risk of a controlled interruption of a portion of the South Orange County load.
- SDG&E's contention that the SOCRE Project is needed to comply with mandatory NERC, WECC, and CAISO transmission and operations standards.
- SDG&E's statement that the SOCRE Project is needed to replace aging equipment and to increase capacity.
- Whether SDG&E has provided sufficient evidence to substantiate its claim that the SOCRE Project is needed to improve transmission and distribution operating flexibility.
- SDG&E's assertion that the existing Talega Substation configuration restricts the conditions under which maintenance can be done, and creates 18 different outage scenarios that could cause uncontrolled loss of customer load in South Orange County.

- The basis for and accuracy of SDG&E's claim that the South Orange County area has been experiencing continuing load growth of over 15 percent in the last ten years, has an expected load growth of 10 percent in the next ten years, that the 138 kV system has reached maximum capacity, and that the SOCRE Project is needed for additional capacity, reliability, and operational flexibility.
- SDG&E's contention that it would locate the SOCRE Project facilities within existing transmission corridors, SDG&E's rights of way, and utility owned property, and the need for more expensive undergrounding which SDG&E proposed for portions of the SOCRE Project.

ORA proposes to conduct discovery to ascertain whether or not SDG&E has met its burden of proof on these issues.

1.3.2. The City of San Juan Capistrano

The SOCRE Project includes replacement of the existing 138/12 kV Capistrano Substation which is located within a residential district near downtown San Juan Capistrano and the historic San Juan Capistrano Mission. The SOCRE Project would include construction of a 10-foot tall, 360 feet in circumference security wall, replacement of existing utility towers with taller steel poles, and demolition of a circa 1918 building on the existing substation that is listed on the City's "Buildings of Distinction" listing to replace it with two 50-feet tall buildings.

The SJC Protest notes that the Capistrano Substation is located in the heart of the City of San Juan Capistrano, downtown near the core of the city and within well-established residential communities. After identifying its interest in protecting the safety and welfare of its residents and assuring that any project approved by this Commission has the least impacts to city residents, the SJC protest questions the adequacy of SDG&E's consideration of community values,

historical and aesthetic values, and the sufficiency of SDG&E's examination of potential alternative locations for expansion of its facilities.

1.3.3. Forest Residents Opposing New Transmission Lines

On June 22, 2012 FRONTLINES filed its protest to the SDG&E application. FRONTLINES raises three issues with the SOCRE Project. First, according to FRONTLINES, the project proposed by SDG&E differs from the project approved by the CAISO. Second, FRONTLINES asserts that the fundamental purpose of the project approved by the CAISO is to bring another source to SDG&E's service territory in South Orange County by connecting the Capistrano Substation to the San Onofre Nuclear Generating Station (SONGS). FRONTLINES then argues that since the SONGS generation units were taken off-line indefinitely, there will not be any generation for the SOCRE Project to interconnect to for the foreseeable future. Finally, FRONTLINES asserts that the project would lead to the construction of new above ground transmission lines in heavily developed regions which have been categorized as either High Fire Zones or Very High Fire Zones. In addition to the substantive issues identified above, FRONTLINES questions the reasonableness of SDG&E's request to file portions of the Proponents Environmental Assessment (PEA) under seal.

1.4. The Prehearing Conference

A Prehearing Conference (PHC) was held on November 19, 2014. Given the options and outcomes set forth in the screening report, the parties were asked whether they believed it more prudent to sequence the proceeding and first address the question of whether the Project is needed to ensure reliability in the area through the 10-year planning forecast.

For its part, after urging that reliability be examined with both the NERC standards and load forecast in mind, SDG&E appeared to favor not sequencing the proceeding so as to avoid duplication and delay. CAISO agrees with SDG&E. In contrast, after asserting that the Commission previously used a 5-year planning forecast, FRONTLINES urges that the proceeding be sequenced to allow an assessment of need that takes into account the most current information available. For its part, ORA defers to the Commission's discretion.

1.5. The Assigned Commissioner's Ruling

The Scoping Memo and Ruling of Assigned Commissioner (Scoping Memo) issued on February 23, 2015. In addition to establishing the procedural schedule and assigning the Presiding Officer, the Scoping Memo identified the following issues as within the scope of this proceeding:

1. Is there a need for the SOCRE Project? This issue is limited to whether there is a public convenience and necessity for the benefits that the SOCRE Project might offer, but not whether this particular project is needed to achieve those benefits. This issue encompasses, but is not limited to, the following considerations:
    a. Is there a genuine risk of uncontrolled outages for the entire South Orange County load, and if so, is the SOCRE Project necessary to reduce this risk in an appreciable way or are there alternative ways to reduce this risk?
    b. Reliability: Is there a genuine risk of a controlled interruption of a portion of the South Orange County load, as SDG&E asserts, and if so, is the SOCRE Project necessary to reduce this risk in an appreciable way or are there alternative ways to reduce this risk?
    c. Is the SOCRE Project necessary to comply with mandatory NERC, WECC, and CAISO transmission and operations standards or are there other ways to comply with the standards above?

   d. What is the projected load growth over the next 10 years in the SOCRE Project area?

   e. Is the SOCRE Project necessary to accommodate the projected load growth in the Project area over the next ten years, or are there alternative ways to accommodate this load growth?

2. What are the significant adverse environmental impacts of the SOCRE Project?

3. Are there potentially feasible mitigation measures or SOCRE Project alternatives that will avoid or lessen the significant adverse environmental impacts?

4. As between the SOCRE Project and the SOCRE Project alternatives, which is environmentally superior?

5. Are the mitigation measures or SOCRE Project alternatives infeasible?

6. To the extent that the SOCRE Project and/or alternatives result in significant and unavoidable adverse environmental impacts, are there overriding considerations that nevertheless merit Commission approval of the SOCRE Project or alternative?

7. Was the Environmental Impact Report (EIR) completed in compliance with CEQA, did the Commission review and consider the EIR prior to approving the SOCRE Project or an alternative, and does the EIR reflect our independent judgment?

8. Is the SOCRE Project and/or alternative designed in compliance with the Commission's policies governing the mitigation of Electro-Magnetic Field effects using low-cost and no-cost measures?

9. What is the maximum cost of the SOCRE Project, if approved?

10. Does the SOCRE Project design comport with Commission rules and regulations and other applicable standards governing safe and reliable operations?

On March 30, 2015 the Assigned Commissioner's Ruling Identifying Issues Requiring Evidentiary Hearings clarified that relative to the issues identified above that are within the proceeding:

- Evidentiary hearings are only required for issues 1 and 9;
- Issue 5 (infeasibility of mitigation measures and/or project alternatives) is a material factual issue and evidentiary hearings are needed if any party contests it; and
- Issue 10 (project design's compliance with standards governing safe and reliable operations) is a material factual issue and parties may or may not request evidentiary hearings on this matter.

1.6. Evidentiary Hearings

At the request of the parties, hearings which were originally scheduled to begin on June 15, 2015 and conclude two days later on June 17, 2015, were rescheduled to begin on November 9, 2015. Though SDG&E provided direct written testimony on April 7, 2015, and supplemental testimony on September 7, 2015, just three days before the start of hearings, on November 6, 2015, SDG&E provided what it identified as "corrected" direct written testimony.[7] FRONTLINES (joined by ORA), moved to strike this testimony on claims that it presented new, eleventh-hour testimony. The FRONTLINES Motion to Strike was discussed on the first day of hearings. The presiding Administrative Law Judge (ALJ) reviewed the proffered testimony and determined that it went far beyond correcting typographical errors or updating numbers, and included more than twenty pages of new testimony. The new testimony was found to be beyond the corrections allowed by Commission Rule 13.8 and deemed prejudicial to other parties, as they were denied a meaningful opportunity to

[7] SDG&E Ex. 1.1.

respond to the new testimony.[8] The presiding ALJ then directed SDG&E to strike the additional new testimony but provided that SDG&E could resubmit its testimony with typographical error corrections and updated numbers.

So as to avoid delaying hearings while waiting for SDG&E to revise its testimony, cross-examination was initially had based on the improper SDG&E corrected testimony (SDG&E Ex. 1.1), excluding sections that contained new testimony. SDG&E provided a second version of its corrected testimony a couple of days later.[9] On review by the parties and presiding ALJ, SDG&E's resubmitted corrected testimony was again found to include new testimony and not comply with the ALJ's directive. SDG&E was directed to file yet another version of its corrected testimony and fully comply with the presiding ALJ's prior directives.

Hearings, which the parties estimated would take three days, required nine days to complete and concluded on December 3, 2015. At the conclusion of hearings the parties agreed that Opening Briefs would be served and filed on January 11, 2016, and Reply Briefs would be served and filed on February 1, 2016. The matter was submitted upon the filing of reply briefs.

[8] When queried as to why it did not make these changes more than a month prior – when it had the information the changes were based on, SDG&E asserted that it didn't have sufficient resources to allow its people to review their testimony in a timelier fashion.

[9] SDG&E Ex. 1.2.

2. Discussion

2.1. The Environmental Impact Reports

2.1.1. Background

In July 2014, the Commission's Energy Division staff issued its CEQA Alternatives Screening Report (Screening Report). This report presents the results of the Commission's process of selection and review of project alternatives that were identified in the applicant's PEA, formulated by the Commission Staff, and/or proposed during public scoping for the EIR. The alternatives screening process identified and reviewed the following 11 potential alternatives to the SOCRE Project:

- Alternative A – No Project.
- Alternative B1 – Reconductor Laguna Niguel–Talega 138 kV Line
- Alternative B2 – Use of Existing Transmission Lines (Additional Talega–Capistrano 138 kV Line).
- Alternative B3 – Phased Construction of Alternatives B1 and B2.
- Alternative B4 – Rebuild South Orange County 138 kV System.
- Alternative C1 – SCE 230 kV Loop-in to Capistrano Substation.
- Alternative C2 – SCE 230 kV Loop-in to Capistrano Substation Routing.
- Alternative D – SCE 230 kV Loop In to Reduced-Footprint Substation at Landfill.
- Alternative E – New 230 kV Talega–Capistrano Line Operated at 138 kV.
- Alternative F – 23 kV Rancho Mission Viejo Substation.
- Alternative G – New 138 kV San Luis Rey–San Mateo Line and San Luis Rey Substation Expansion.

The CPUC, as the Lead Agency as defined by CEQA, prepared a Draft EIR (DEIR) for the SOCRE Project and circulated the DEIR for public comment for a

45-day period beginning February 23, 2015, and ending April 10, 2015. In February 2015, consistent with the provisions of Section 15088.5 of the CEQA Guidelines, portions of the DEIR were revised with new information, and the revised chapters and sections were recirculated. Among other things, the Recirculated DEIR contained Alternative J which was suggested during review of the DEIR.[10] The Recirculated DEIR added a description of the alternative to Chapter 3, "Description of Alternatives." A description of the environmental effects resulting from the implementation of the alternative, as compared to the applicant's proposal, was added to Chapter 5, "Comparison of Alternatives." In addition, the Recirculated DEIR identified additional significant impacts on biological resources, cultural resources, and land use and planning from construction and operation of the proposed project that were not previously disclosed in the DEIR. Consistent with the provisions of Section 15088.5 of the CEQA Guidelines, comments on the Recirculated DEIR were received over a 45-day period starting August 10, 2015, and ending September 24, 2015.

On April 25, 2016 the final EIR issued. The final EIR documents and responds to all written and oral comments made on the DEIR, as required by CEQA. As also required by CEQA, the final EIR examines the environmental impacts of the proposed project and a number of alternatives, including the No Project Alternative; it identifies their significant and unavoidable environmental impacts and the mitigation measures that will avoid or substantially lessen them, and identifies the environmentally superior alternative pursuant to CEQA.

[10] Identified as "Alternative J – SCE 230-kV Loop-In to Trabuco Substation" in the Recirculated Draft EIR.

We have reviewed and considered the information contained in the final EIR, as well as parties' challenges to the adequacy of the final EIR. We find that substantial evidence supports the EIR findings, and certify that the final EIR was completed in compliance with CEQA, that we have reviewed and considered the information contained in it, and that it reflects our independent judgment.

2.1.2. EIR Findings

2.1.2.1. Project Objectives

The objectives of the proposed project defined by the CPUC for CEQA review reflect the purpose of the proposed project as described in the PEA and applicant's responses to CPUC requests for information. The following three objectives were developed with consideration of the project objectives presented in the PEA and the outcome of CAISO and CPUC reviews of the proposed project. The objectives, as defined by the CPUC, were used as a basis for the development of a reasonable range of alternatives as required by CEQA. The basic objectives of the proposed project are to:

1. Reduce the risk of instances that could result in the loss of power to customers served by the South Orange County 138-kV system through the 10-year planning horizon;
2. Replace inadequate equipment at Capistrano Substation; and
3. Redistribute power flow of the applicant's South Orange County 138-kV system such that operational flexibility is increased.

The EIR concludes that all the Alternatives would meet project Objectives 1 and 2 (as defined in Section 1.3.1 of the EIR), and ensure each of the potential Category C (N-1-1) contingencies identified by the applicant and CAISO would be avoided through the 10-year planning horizon. However, the EIR determined that Alternatives A, B.1, B.2, B.3, and B.4 would not redistribute the power flow

of the applicant's South Orange County 138-kV system as required by Objective 3.

2.1.2.2. Significant Adverse Environmental Impacts

An EIR must identify the significant adverse impacts of the proposed project, as well as a reasonable range of alternatives to the SOCRE Project that feasibly attains most of the basic project objectives but avoids or substantially lessens any of the significant effects of the project. (CEQA Guidelines § 15126.6.)

Under the No Project Alternative, the proposed project would not be constructed. The No Project Alternative assumes no change in existing operations, i.e., it presumes SDG&E would (and could) continue to operate the existing electrical facilities and no reliability improvements would be made. The No Project Alternative represents the status quo and, consequently, would result in no environmental impacts over existing baseline conditions. The EIR determined that the CEQA-required No Project Alternative is the only alternative that would not result in new environmental impacts.

CEQA Guidelines § 15126(d)(2) stipulates that, "if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Based on the comparison of the environmental impacts of the alternatives, the EIR/EIS identifies the environmentally superior alternative other than the No Project Alternative as Alternative J.

2.2. Forecasted Need

2.2.1. Background

As shown in Table 1 below, SDG&E originally claimed that its 2014 forecast showed South Orange County reaching 490 MW beyond 2023.

Table 1: SDG&E's South Orange County 2014 Load Forecast[11]

Year	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*	*2021*	*2022*	*2023*
Total South Orange County	***427.8***	***433.5***	***440.1***	***446.9***	***453.2***	***459.5***	***465.7***	***471.9***	***478.1***	***481.1***

Though based on the same data and making use of the same computer models, the Screening Report raises serious questions about the forecasted need for power SDG&E claims supports the need for the project. In contrast to the SDG&E forecast, the Screening Report finds:

- Recorded peak load on the South Orange County 138-kV system has dropped each year since 2007.
- The existing system is capable of handling 400 to 499 MW of power during normal conditions and 500 MW or more during temporary peak load conditions.
- The rated capacity of the 138-kV system is approximately 580 MW.
- The applicant's current power flow data do not indicate that system loads may exceed 500 MW until after 2024.[12]
- The applicant does not forecast that any of the 138/12-kV substations within its South Orange County 138-kV system would exceed their operating capacity through 2024.

Notably, all power flow inputs and load forecast data used in the Screening Report analysis were provided by SDG&E.

[11] SDG&E Opening Brief at 26, citing Exh. SDG&E 2.2 (Supp. Testimony at 57 ln.19-20).

[12] The applicant's latest forecast assumes the continued development of the Rancho Mission Viejo Substation during the next 10 to 20 years.

2.2.2. Parties' Positions

As noted by the CAISO:

> The applicant for a CPCN has the burden of affirmatively establishing the reasonableness of all aspects of its application. Intervenors do not have the burden of proving the unreasonableness of [the applicant's] showing.[13]

Here, SDG&E's forecast claim is contested by virtually every party in the proceeding. Consistent with the conclusions in the Screening Report SJC, FRONTLINES, and ORA argue that SDG&E's claim that the SOCRE Project is necessary is based on unrealistic and unsupported Peak Load Forecasts. Specifically, SJC argues that the SOCRE Project is excessive to meet the stated objectives. Citing documentation provided by the CAISO, SJC notes that the projected load growth which was initially driving this project has not materialized and is not anticipated to materialize in the relevant planning horizon.[14] Similarly, FRONTLINES notes:

> [T]he CAISO approved the SOCRE Project in 2011 based on overload concerns in South Orange County that assume a 2020 Peak load of 525 MW. This peak load assumption is unrealistic and simply unbelievable, given that the 2015 Peak load in South Orange County was actually only 415 MW.[15]

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[13] CAISO Opening Brief at 2, citing Decision (D.) 10-12-052, In the Matter of the Application of the Southern California Edison Company (U 338 E) for a Certificate of Public Convenience and Necessity for the Eldorado-Ivanpah Transmission Project.

[14] SJC Opening Brief at 6-7 citing Exhibit CAISO-501, at 3.

[15] FRONTLINES Opening Brief at 7.

FRONTLINES goes on to note that the CAISO updated its Net Peak Load forecast for South Orange County since approving the SOCRE Program in 2011, and now predicts a 446 MW peak load in 2024 and a 453 MW peak load in 2025.[16]

ORA agrees with the FRONTLINES and SJC assessments of SDG&E's South Orange County load forecast and points out that "[t]he peak load for the South Orange County area for 2015 was only 415 MW, below SDG&E's load forecasts of 433.5 MW and 443.3 MW."[17] ORA also notes that SDG&E's 2014 load forecast was similarly inflated since the actual peak load for the South Orange County area was 415.3 MW. ORA argues that historical loads in the area, the actual peak load results for 2014 and 2015, and SDG&E's admission that its non-coincident load forecasts for South Orange County have decreased since 2011, call into question the credibility of SGD&E's forecast.

As shown in Table 2 below, SDG&E subsequently argues that while its 2014 forecast showed South Orange County reaching 490 MW beyond 2023, its 2015 load forecast shows South Orange County reaching 490 MW in 2023.

Table 2: SDG&E South Orange County's 2015 Load Forecast[18]

Year	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*	*2021*	*2022*	*2023*	*2024*
Total South Orange County	***443.3***	***449.9***	***456.6***	***462.8***	***469.0***	***475.4***	***481.4***	***487.6***	***493.9***	***500.2***

In proffering its 2015 forecast, SDG&E seeks to introduce evidence that was not provided to the Commission for the CEQA analysis and that opponents to the SOCRE project lack the ability to fully analyze. This is particularly

[16] FRONTLINES Opening Brief at 7, citing CAISO Exhibit 505.

[17] ORA Opening Brief at 7.

[18] SDG&E Opening Brief at 26, citing Exh. SDG&E 2.2 (Supp. Testimony at 57 ln.19-20).

troubling, in light of SDG&E's belated corrections to its testimony, the differences found between the Commission's CEQA team's conclusions and those of SDG&E, using the same modeling software and (2014) data, and SDG&E's prior forecast having consistently overestimated demand in the area.

FRONTLINES identifies the January 2015 SDG&E forecast as unreliable both because it assumed a 2023 peak South Orange County load of 481 MW which is higher than the CAISO's most recent forecast, and because the SDG&E forecast was revised upward three months later to project a 3% higher 2023 peak South Orange County load of 494 MW, while the CAISO forecast was revised downward.[19] FRONTLINES concludes that SDG&E's inflated forecast resulted in SDG&E wrongly identifying numerous unlikely contingency events. Specifically, according to FRONTLINES, because SDG&E erroneously assumes a minimum 466 MW peak load level, the Category C overload concerns it predicts will not occur within the 10 year planning horizon, if at all.

ORA agrees with FRONTLINES and notes that SDG&E's having been less than forthcoming with contradictory 2015 peak load data (despite the numerous corrections made by SDG&E to its showing), further calls into question SDG&E's claim that load is increasing in the South Orange County area.[20]

In addition to being disputed by SJC, FRONTLINES, and ORA, SDG&E's forecast is at odds with that of the CAISO and the analysis performed in the development of the Screening Report, both of which were based on SDG&E's data and models. Given the above, we find SDG&E's 2014 forecast excessive and

[19] FRONTLINES Opening Brief at 8, citing SDGE Exhibit 1.3R, Table 4-1.

[20] ORA Reply Brief at 2.

inaccurate. Additionally, in light of questions raised about the accuracy of SDG&E's 2014 and 2015 forecasts, and its submission of the 2015 forecast in a time and manner that does not allow a full and thorough analysis by the opposing parties, we decline to adopt SDG&E's 2015 need forecast at this time. Instead, we will rely on the lower need forecast developed by the Commission's CEQA team using the same data and modeling software as SDG&E.

2.3. Compliance with NERC Standards

2.3.1. The Bulk Electrical System (BES) Exception

SDGE claims the SOCRE Project is needed to provide reliable service to its South Orange County customers.[21] According to SDG&E, the transmission system in South Orange County can only support 410 MW of load without violating the Applicable Rating of a transmission element in the event of a NERC Category B or C contingency, and the South Orange County peak load already exceeds that MW amount.[22] In particular, SDG&E claims various contingency scenarios[23] and maintenance activities[24] could result in an interruption in service to all or portions of South Orange County's distribution load as well as violations of the reliability standards[25] adopted by the NERC and/or the CAISO.

The CAISO agrees with SDG&E that the SOCRE Project is needed to bring the South Orange County system into compliance with mandatory NERC

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[21] Exhibit SDGE-1.3R page 29 beginning at 6.

[22] SDG&E defines load serving capacity as the maximum amount of load which can be served following a failure which removes a single or multiple elements from service without violating the Applicable Rating of the remaining elements. [SDG&E Opening Brief page 28.]

[23] Exhibit SDGE-1.3R page 47 at 20-21 and from 56 at 3 to 65 at 17.

[24] Exhibit SDGE-1.3R Table 4-3, page 43 at 12, Tables 4-4, 4-5, 4-6 and page 65 at 21.

[25] Exhibit SDGE-1.3R page 47 at 22 and pages 50-55.

Reliability Standards and CAISO Planning Standards. Moreover, while the CAISO notes that it updated its analysis during the course of this proceeding and acknowledges that its updated analysis shows a reduction in projected load growth over the 10-year planning horizon, the CAISO continues to support the SOCRE Project on claims that significant reliability concerns exist which justify the project.[26]

The CAISO's reliability concerns relate to at least three issues. First, the CAISO argues that various thermal overloads will develop on distinct facilities over the ten-year planning horizon without the SOCRE Project and many unique contingencies cannot be addressed through a Special Protection System (SPS) without violating the NERC long-term planning requirements.[27] The CAISO next contends that the South Orange County 138 kV system is a BES (rather than a local network) to which the NERC reliability standards apply.[28] Finally, the CAISO argues that regardless of whether or not the South Orange County 138 kV

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[26] The CAISO identified a total of 57 reliability events that would result in an uncontrolled interruption of service when a maintenance outage at the Talega Substation is followed by a contingency event. CAISO Opening Brief at 5 citing Exhibit CAISO-502, p. 7; and see CAISO Opening Brief at 4, citing CAISO-500 at 10.

[27] CAISO Opening Brief at 4, citing CAISO Exhibit 500, at 10; CAISO Opening Brief at 5, Fn. 35.

[28] Specifically, the CAISO notes that the South Orange County 138 kV system is interconnected to the rest of the CAISO- controlled grid through not only the 230/138 kV facilities at Talega but also through the 69 kV facilities from San Luis Rey to Talega, and the South Orange County 138 kV system provides reactive support required to support San Diego import transmission, which is identified as an Interconnection Reliability Operating Limit due to the post-transient voltage instability concern in the SDG&E and LA Basin areas after the SONGS retirement. Also, a 100 MVAR STATCOM (Dynamic Reactive Power Device) is located at the 138 kV Talega bus and a 40 MVAR shunt capacitor (Static Reactive Power Device) is located at Capistrano 138 kV bus. According to the CAISO, pursuant to NERC's Inclusion I5 to the BES definition, both of these devices are BES elements because they support voltages and transfer capability on the 138 and 230 kV systems.

facilities are considered BES facilities under NERC, the facilities are under CAISO operational control and the CAISO Planning Standards require the CAISO to apply NERC TPL standards to "facilities with voltages less than 100 kV or otherwise not covered under the NERC Bulk Electric System definition that have been turned over to the [CA]ISO operational control."[29] The CAISO concludes that this means the South Orange County 138 kV system is not a "local network" and should not be excluded from the BES because it transfers bulk power across the interconnected CAISO grid and provides critical reactive power support to voltage and transfer capability in the Southern Orange County and the San Diego import transmission systems.[30]

FRONTLINES disagrees with the CAISO's contentions. Citing the NERC Glossary of Terms FRONTLINES points out that "Local Networks" are excluded from the definition of a BES if they:[31]

1) Operate at less than 300 kV;
2) Distribute power to load;
3) Do not transfer bulk power across the interconnected system;
4) Emanate from multiple connections at 100 kV or higher to improve service to retail customers;
5) Do not accommodate bulk power transfer;
6) Do not include generation resources;
7) Do not transfer energy originating outside the network for delivery through the network; and

[29] CAISO Opening Brief at 9, citing The CAISO Planning Standards (ORA Exhibit 227), at 4.

[30] CAISO Opening Brief at 7.

[31] FRONTLINES Opening Brief at 3, citing the NERC Glossary of Terms at pages 19-21.

8) Are not part of a transfer path.

FRONTLINES addresses each of these criteria in turn and concludes that they are met by the South Orange County system because it:

1) Operates at 138 kV and 12 kV;
2) Only distributes power to load via seven distribution systems;[32]
3) Cannot transfer bulk power across the interconnected system because it is a radial arrangement of distribution substations served solely from a single connection to the CAISO grid.[33]
4) Emanates from multiple connections between seven 138 kV distribution substations;[34]
5) Cannot accommodate bulk power transfer (and has no impact on the CAISO grid);[35]
6) Has no generation;[36]
7) Does not transfer energy originating outside the 138 kV distribution system through the system (aka "loop" flow) because South Orange County itself has only one point of connection (Talega) to external generation; and
8) It is not part of either WECC Path 43 or WECC Path 44, though it draws power from WECC Path 44 through a 138 kV connection.[37]

FRONTLINES argues that the definition of a BES provided by NERC makes clear that the South Orange County 138 kV network of distribution substations is a

[32] FRONTLINES Opening Brief at 3, citing SDGE Exhibit 1.3 R page 8 at 9.

[33] SDGE 1.3R page 32 at 8 and SDGE 1.3R page 41 at 11.

[34] SDGE 1.3R page 8 at 9.

[35] CAISO response to FRONTINES discovery request, Exhibit 401C at FN17.

[36] Transcript 1277 at 2.

[37] FRONTLINES Opening Brief at 3, citing SDGE 4C page 31 at 6-9.

Local Network that is not part of the BES.[38] Specifically, according to FRONTLINES, the inclusionary provisions of the BES definition similarly address elements and devices (such as the CAISO and SDGE cite), the plain and unambiguous language of these inclusionary provisions makes clear that they apply only to the devices specified and do not apply to the elements connected to such devices.[39] FRONTLINES concludes that the 138 kV lines and seven distribution substations that comprise SDGE's South Orange County system are specifically not part of the BES and are therefore not subject to TPL002-02b, TPL-003-0b, and TPL-004-0a.

Finally, the CAISO contends that regardless of whether or not the South Orange County 138 kV facilities would be a Local Network under NERC, it is classified as part of the BES because the facilities are under CAISO operational control and the CAISO Planning Standards require the CAISO to apply NERC TPL standards to "facilities with voltages less than 100 kV or otherwise not covered under the NERC Bulk Electric System definition that have been turned over to the [CA]ISO operational control."[40]

2.3.2. The 2016 NERC Standard Revisions

In its January 11, 2016 Opening Brief the CAISO points out that "[a]s of January 1, 2016, NERC TPL-001-4 is the enforceable, governing standard for transmission system planning performance requirements."[41] According to the CAISO, the new NERC standard does not allow non- consequential load

[38] FRONTLINES Opening Brief at 3, citing Attachment 26 in SDGE Exhibit 3.2C.

[39] FRONTLINES Opening Brief at 3.

[40] CAISO Opening Brief at 3.

[41] CAISO Opening Brief at 7.

loss after a single contingency event in the long-term transmission planning horizon:

> In footnote 12, which replaces the prior footnote B, the NERC standard notes that non-consequential load loss may be used if it is used only within the "Near-Term Transmission Plan Horizon" (i.e., years one through five) and is vetted through an "open and transparent stakeholder process."[42]

The CAISO thus argues that FRONTLINES' contention that footnote B allows for load loss after a single event is moot because the prior standard has been entirely replaced by NERC TPL-001-4 and "footnote B" no longer exists. Unfortunately, neither the CAISO nor any other party made any discernable effort to present evidence going to the effect of these new standards during hearings.

Both the Commission's decision making process and due process require parties to present the facts and evidence that relate to their understanding of the controlling law (as subsequently set forth in briefs and reply briefs). Here, the CAISO proffers its interpretation of the new NERC regulation, without having afforded the Commission the opportunity to identify or consider potentially relevant factual issues (such as the existence of other now permissible ways of reducing load, and what qualifies as a "near-term planning project" within the meaning of the new NERC regulation) at hearings.[43]

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[42] CAISO Opening Brief at 6.

[43] At 8 of its Opening Brief the CAISO asserts that "[t]he SOCRE Project is a long-term mitigation plan designed to address reliability concerns over the 10-year planning horizon. Thus, it is not within the Near-Term Transmission Plan Horizon in which non- consequential load loss may be used."

Rather than rely solely on the CAISO's application of this change in law to the facts before us, we note that when TPL-001-4 took effect in January 2016, the former footnote B that potentially provides an exemption for local area networks was removed. Under the new standard most single contingency events are now subject to the new footnote 12 which provides:

> An objective of the planning process should be to minimize the likelihood and magnitude of non-consequential load loss following planning events. In limited circumstances, non-consequential load loss may be needed throughout the planning horizon to ensure that BES performance requirements are met. However, when Non-Consequential Load Loss is utilized under footnote 12 within the near-term transmission planning horizon to address BES performance requirements, such interruption is limited to circumstances where the non-consequential load loss meets the conditions shown in Attachment 1. In no case can the planned Non-Consequential load loss under footnote 12 exceed 75 MW for US registered entities.

This new language limits load-drop under single contingencies to 75 MW.

The limitation of load loss to a maximum of 75MW appears to only have a significant impact on project alternatives that risk a significant (>75 MW) loss of load under a single contingency. The projects affected by this limitation are the "No Project" alternative, the Group 2 alternatives which include B.1-B.4 and E, and Group 3 alternatives C1, C2, and D. The 2016 NERC standard does not impact the single contingency feasibility of Alternatives F, G, and J, as no single contingency (Category B, P1, P2) overloads/ load shedding was found in the reliability studies of those alternatives.

2.3.3. Reliability Conclusion

While the ISO has responsibility to ensure the reliability of the State's electrical system pursuant to Pub. Util. Code § 345, reliability planning and deciding that a particular transmission project should be built are two vastly

different issues.[44] Pub. Util. Code § 1001 places an ongoing responsibility on this Commission to evaluate the public convenience and necessity of proposed transmission projects, and therefore we independently assess the record developed in this proceeding to determine whether projects or alternatives are appropriate on the basis of reliability, as well as safety and economics. Although we appreciate the CAISO's insights, we are not required to defer to the rules or standards it adopts for transmission planning.[45] The parties devoted considerable time and effort to the question of whether the facilities at issue were local or a bulk electrical system under NERC. However, this distinction is of limited relevance in light of the revisions to NERC that took effect in January 2016, after hearings in this proceeding. Consistent with the new NERC provisions and our limited record on the issue, we will apply the 2016 NERC regulations to those project alternatives that carry a risk of a significant (>75 MW) loss of load under a single contingency. The projects affected by this limitation are the "No Project" alternative, the Group 2 alternatives which include B.1-B.4 and E, and Group 3 alternatives C1, C2, and D. Neither the 2016 NERC standard nor the BES exemption are relevant to Alternatives F, G, and J, as no single contingency (Category B, P1, P2) overloads/load shedding was found in the reliability studies of those alternatives as they do not carry a risk of a significant loss of load (>75 MW) under a single contingency and are not impacted by the new footnote 12.

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[44] See D.01-01-029, 2001 Cal. PUC LEXIS 1000 at *229. This decision echoes language in D.01-05-059, 2001 Cal. PUC LEXIS 413 at *27, which was also adopted in 2001.

[45] *Id.*

2.4. Project Alternatives

2.4.1. The Proposed Project

2.4.1.1. Costs

SDG&E estimates that the proposed SOCRE Project will cost approximately $381 million.[46]

2.4.1.2. Reliability

SDGE argues that the current configuration of the 138 kV local network[47] of distribution substations[48] in South Orange County poses real reliability risks to customers and a genuine risk of uncontrolled outages for the entire South Orange County area.[49] In particular, according to SDG&E, a loss of 230 kV or 138 kV service at Talega Substation will interrupt all electric service to residents and businesses in South Orange County and "[a] second source is required to provide equivalent reliability to SOC."[50] SDG&E contends that this risk will only increase in the future given the substantial distribution load growth that SDG&E expects to occur in South Orange County network.[51] SDG&E's argument in this regard again relies on its interpretation of the NERC requirements. Specifically,

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[46] SDG&E Rebuttal Testimony at 16.

[47] Exhibit SDGE-1.3R page 8 at 11 & 12, page 9 at 1 and page 32 at 8; ORA Exhibit 202, last sentence of Section 4 on page 8 of 22.

[48] Exhibit SDGE-1.3R page 1 at 19, page 8 at 10, page 9 at 4, 10 at 17, 12 at 9, 43 at 10, 84 at 17, 91 at 9.

[49] Exhibit SDGE-1.3R from page 8 at 9 to page 9 at 12.

[50] SDG&E Reply Brief at 16.

[51] See description of SDGE's distribution load forecast beginning on page 36 at 1 of SDGE Exhibit 1.3R and Table 4-1, which was later amended in supplemental testimony [exhibit SDGE-2.2RC page 55 Table 2-1]. The 2024 load forecast in Table 2-1 is more than 20% higher than the actual 2014 peak load of 415.3 MW [FRONTLINES Exhibit 413] and the actual 2015 peak load of 415 MW [transcript page 205 at 16].

SDG&E maintains that the entire Orange County 138 kV distribution system is at risk of an uncontrolled outage under certain maintenance scenarios[52] and in the event of a Category D[53] contingency loss of the Talega substation.[54]

While no party argues that the events SDG&E identifies are not possible, various parties argue that the project is excessive and/or that the contingency events are highly unlikely.[55] For example, SJC argues that, based on today's best information within an appropriate planning horizon, the SOCRE Project is excessive to meet the identified objective of addressing load growth on the South Orange County transmission loop and the SOCRE Project far exceeds the objectives of adding a 230 kV power source, in addition to the Talega 230 kV Substation, for the SDG&E South Orange County transmission loop.[56]

For its part, FRONTLINES argues that while the SOCRE Project might mitigate outage risks to the entire South Orange County posed by the maintenance scenarios posited by SDG&E, it does not and cannot prevent all possible outages as it does not provide a second 230 kV source that is located far from the Talega substation.[57] Indeed, according to FRONTLINES, the SOCRE Project is intrinsically designed to serve South Orange County load via infrastructure that is susceptible to the same extreme catastrophic events that

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[52] Exhibit SDGE-1.3R Table 4-2, page 43 at 1.

[53] NERC identifies a "Category D" event as an "extreme event resulting in two or more (multiple) elements removed or cascading out of service" [see page 5 of ORA-212].

[54] Exhibit SDGE-1.3R page 40 at 16.

[55] For the most part, rather than address the issue of demand/reliability related outages as the other parties, the CAISO limits its discussion to NERC compliance issues.

[56] SJC Opening Brief at 6-7.

[57] FRONTLINES Opening Brief at 10.

would remove Talega from service and the SOCRE Project itself is configured in such a way that it poses significant risk to South Orange County load during certain contingency events at Capistrano even if the Talega substation is fully operational.[58]

According to FRONTLINES, the risk to one-third of the South Orange County load not addressed by the SOCRE Project can only be mitigated by "jumpering" a "shoe-fly" connection between one of the Laguna Niguel lines to one of the Trabuco lines. FRONTLINES argues that installation of this connection would cause more than one-third of South Orange County customers to be without power for a day and, should the South Orange County load "peak" while the "jumper" connection were in place, lines TL13131 and 13838 would exceed their emergency thermal rating, which would demand even more load shedding to keep all lines operating within acceptable limits.[59] Finally, FRONTLINES argues that even if the SOCRE Project is constructed as proposed, South Orange County will experience voltage problems if Talega is removed from service because any event which removes Talega from service will also take Talega's synchronous condensers off-line, and the synchronous condensers are needed to provide voltage support throughout SDGE's entire South Orange County system.[60]

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[58] FRONTLINES Opening Brief at 11.

[59] FRONTLINES Opening Brief at 12.

[60] FRONTLINES Opening Brief at 12, citing Tr.1139 – 1140.

2.4.1.3. Conclusion

While likely due in no small part to SDG&E's having overestimated demand for the planning period, it is readily apparent that the SOCRE Project goes far beyond the needs of SDG&E's South Orange County service area. Less apparent, but nonetheless clear is the fact that while the SOCRE Project will mitigate outage risks to the entire South Orange County posed by the maintenance scenarios posited by SDG&E, there are other outage risks that SDG&E has failed to identify that are better addressed by project alternatives other than the SOCRE Project.

2.4.2. The No Project Alternative

2.4.2.1. Reliability

On claims that the SOCRE Project is largely a costly workaround in order for SDG&E to solve configuration issues at the Talega Substation, ORA asserts that "SDG&E is able to mitigate Talega Substation configuration issues without any project."[61] ORA notes that in response to its data request for detailed information on any uncontrolled and controlled outages SDG&E experienced within the last five years, SDG&E identified only the September 8, 2011 Arizona-Southern California outage as such an event, and SDG&E acknowledged that this event has nothing to do with the reliability issues at hand.[62] Also, though it identified only the September 8, 2011 event in response to ORA's data request, in testimony SDG&E asserted that on July 18, 2013 an event occurred that required the Talega Substation 230 kV or 138 kV buses to be

[61] ORA Opening Brief at 22.

[62] ORA Opening Brief at 4, citing ORA Exhibit 205 (*SDG&E 05/31/13 Response, to ORA Data Request 8, Dated May 16, 2013)*, at 1.

removed from service, and power flow to South Orange County to be interrupted causing SDG&E's South Orange County customers to lose electric service.[63] However, ORA's cross-examination on this point confirmed that the cause of the event, "miscommunication," had nothing to do with the justifications for the SOCRE Project.[64]

In marked contrast to ORA, the CAISO argues first that if the Commission were to approve the No Project Alternative it would need to undertake additional improvements to meet the identified reliability needs, which include expanding the 230/138 kV Talega Substation by sectioning the 230/138 kV buses, adding at least two more bay positions at both 230 kV and 138 kV voltage sides, and upgrading the two 230/138 kV transformers (Banks #60 and #62).[65] The CAISO goes on to argue that SDG&E cannot expand the Talega Substation without shutting down its service (depending on the status of the construction and the nature of the forced outage) because it is the sole transmission source to the South Orange County system.[66]

2.4.2.2. Conclusion

It appears that doing maintenance on Talega would put SDG&E at risk of a P1 NERC violation if the operating transformer were to fail while the other transformer is being replaced. In addition, we note that the January 2016 revision of the NERC standards and the new language in standard TPL-001-4

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[63] SDG&E Exhibit 1.3, at 10:16 – 11:2.

[64] Tr. Vol. 1 at 89, 90, 91, 92; Tr. Vol. 7 at 926, Tr. Vol. 2 254 and 288.

[65] See CAISO Opening Brief at 10 citing Exhibit CAISO-502, at 14-15 wherein the CAISO makes the same claim without explaining its basis.

[66] CAISO Opening Brief at 4 citing SDG&E-3.2R, at 19.

limiting load-drop under single contingencies to 75 MW suggests that this project alternative, which carries the risk of a significant (>75 MW) loss of load under a single contingency, does not appear to satisfy the new NERC reliability standard.

2.4.3. Group 2 Project Alternatives (B.1, B.2, B.3, and B.4)

2.4.3.1. Cost-Effectiveness

The final EIR finds Alternatives B.1, B.2, B.3 and B.4 would be cost-effective alternatives that meet Section 1002.3 requirements because they include methods for meeting project objectives that would not require new transmission facilities that would operate at voltages equal to or greater than 200 kV and would incorporate energy conservation and efficiency improvement measures. Alternatives B.1, B.2, B.3 and B.4 would reconductor existing 138 kV transmission lines or, to the extent feasible, make use of transmission lines that are currently not in use. Alternatives B.1, B.2, B.3, and B.4 include cost-effective demand-side alternatives, e.g., targeted energy efficiency, demand reduction measures (demand response and load management), and local generation,[67] that may be implemented within the applicant's 10-year transmission planning horizon.

2.4.3.2. Reliability

The CAISO acknowledges that alternatives B.1, B.2, B.3, and B.4, would address some of the reliability concerns for the Category C events, but asserts that these alternatives are not adequate to meet Category B and Category C

[67] Local generation refers to small-scale, customer-level distributed generation resources within an electrical service area, e.g., rooftop solar photovoltaic generation on single-family homes.

performance requirements because all or a significant amount of customer load in the area would be interrupted with any one of the 4 Category B or the 53 Category C events listed in the CAISO's testimony. Thus, according to the CAISO, if the Commission approves one of these alternatives, additional improvements such as rebuilding and extending the existing non-standard substation layout and 230/138 kV bus configurations at the Talega Substation will be necessary to meet NERC or CAISO transmission planning standards.

In addition, the January 2016 revision of the NERC standards and the new language in standard TPL-001-4 that limits load-drop under single contingencies to 75 MW suggests that these project alternatives, which carry the risk of a significant (>75 MW) loss of load under a single contingency, will not satisfy the NERC reliability standards.

2.4.3.3. Conclusion

In light of the above, these alternatives should not be adopted at this time.

2.4.4. Group 3 Alternatives (C.1, C.2, and D)

Section 1002.3 requires that the Commission consider cost-effective alternatives to transmission facilities when evaluating project applications for a Certificate of Public Convenience and Necessity. Our review of this alternative reveals that the January 2016 revision of the NERC standards and the new language in standard TPL-001-4 that limits load-drop under single contingencies to 75 MW leads to the conclusion that these project alternatives, which carry the risk of a significant (>75 MW) loss of load under a single contingency, will not satisfy the NERC reliability standards.

2.4.5. Alternative E

Both SDG&E and the CAISO oppose this option on claims that it fails to provide for the required reliability. As no party specifically supports this alternative, it should not be adopted at this time.

2.4.6. Alternative F

The CAISO opposes both Alternative F and the slightly modified variation to Alternative F proposed by SJC that would reconfigure the Talega-Rancho Mission Viejo 138 kV circuit to bypass Talega Substation and directly tie with the Talega-Pico 138 kV line.

According to the CAISO, to meet NERC and CAISO planning standards, in addition to the Alternative F improvements, Alternative F would need to be modified to upgrade the 138 kV line between Talega and Laguna Niguel.[68] Similarly, the CAISO provides evidence demonstrating that the modification to Alternative F proposed by SJC would result in five overloads based on Category C contingencies, and one Category D contingency resulting in cascading outages at Rancho Mission Viejo Substation.[69] While loss of load is allowed after the second contingency following system readjustment, and a Category D contingency (catastrophic loss of substation) does not require mitigation, the CAISO also performed a long-term sensitivity analysis with a very moderate load growth forecast and determined that the Category C overloads would increase over time. Based on this sensitivity case, SJC's modified Alternative F

[68] CAISO Opening Brief at 14, citing Exhibit CAISO-502, at 19 and Appendix A, at 27.

[69] CAISO Opening Brief at 19, citing Exhibit CAISO-504, at 4-6.

would result in nine thermal overload concerns on five separate elements caused by six different contingency combinations.[70]

In light of the above, this alternative should not be adopted at this time.

2.4.7. Alternative G

The CAISO faults this alternative because there are only two 138 kV lines out of the existing San Mateo Substation, and it is only one bus away from the Talega Substation, which makes the two transmission sources not fully independent.[71] In addition, according to the CAISO, if the Commission approves Alternative G the 138 kV lines between Talega and Laguna Niguel and between Talega and Pico would need to be upgraded to meet NERC or CAISO transmission planning standards.

In light of the above, this alternative should not be adopted at this time.

2.4.8. Alternative J

2.4.8.1. Reliability

FRONTLINES acknowledges that there is a small outage risk to the South Orange County area. However, FRONTLINES argues that the small outage risks to the entire South Orange County load can be eliminated, and concludes that:

> The risk of an extreme contingency event that removes Talega from service can only be properly mitigated by providing South Orange County with a second 230 kV source that is located far from the Talega Substation and is served by infrastructure that will not be affected by an extreme (fire, earthquake, terrorism, etc.) event occurring in and around the Talega Substation.[72]

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[70] CAISO Opening Brief at 19, citing Exhibit CAISO-504, at 7-11.

[71] CAISO Opening Brief at 14, citing Exhibit CAISO-502, at 20.

[72] FRONTLINES Opening Brief at 10.

Testimony provided by SDG&E witnesses on cross-examination generally supports FRONTLINES' conclusion on this point.[73]

According to FRONTLINES, there are two additions to the SOCRE Project that can address the risks of various contingency events that drop the entire South Orange County load. The first alternative (Trabuco Alternative) establishes a distribution substation that is served from both SONGS and the Santiago Substation (operated by Southern California Edison (SCE) and interconnected to SCE's broader transmission grid) and establishes a power source which is located far from the Talega Substation and is served by infrastructure that will not be affected by an extreme event (fire, earthquake, terrorism, etc.) in and/or around the Talega Substation and thereby eliminates the risks to the entire South Orange County load. Specifically, the Trabuco Alternative requires the construction of a new 230 kV substation which includes two high capacity (392) MVA transformers in a breaker and a half configuration on the 2.3 acre parcel north of the existing Trabuco distribution substation, modifications at Talega that remove existing transformers 60 and 62 and place the two high capacity (392 MVA) transformers in a breaker and a half configuration, and rearranging the transformer connections at Talega so that they terminate in different bays on both the 230 kV side and the 138 kV side.

[73] See Tr. Vol.1, at 58 - 59 and Tr. Vol. 7, at 1063 – 1064.

In addition to eliminating risks to the entire South Orange County load, FRONTLINES asserts that the Trabuco alternative is superior to the SOCRE Project because it:[74]

- is far less costly, will not cause load shedding even if Trabuco is removed from service while Talega remains operational.
- can be supplied with voltage support in the event Talega is removed from service via the synchronous condensers recently installed at Santiago.
- is fully redundant to Talega because South Orange County load will be fully served by Trabuco in the event Talega is removed from service, and South Orange County load will be fully served by Talega in the event Trabuco is removed from service.

FRONTLINES' second alternative involves modifications to the Talega substation independent of the addition of a second source at Trabuco. FRONTLINES acknowledges that this alternative does not address the risk to South Orange County load that is posed by a catastrophic event at Talega, but asserts that it mitigates the risks posed by maintenance events at Talega.

The CAISO offers several arguments in opposition to Alternative J. For example, in briefs the CAISO claims to have performed an analysis of Alternative J in response to the Recirculated (RDEIR) and found overloads on the single proposed 230/138 kV transformer at Trabuco Substation.[75] However, contrary to the CAISO's claims, the single proposed transformer is not mentioned as a limiting factor in the testimony the CAISO cites, and the concerns raised by the CAISO pertain to effects on the SCE system under severe circumstances that

[74] The Trabuco Alternative is identified as Alternative J in the RDEIR and discussed in detail in Section 4.2 of FRONTLINES Exh. 401-C.

[75] CAISO Opening Brief at 16, fn. 73, citing Exhibit CAISO-505, at 4, and Appendix A, at 8.

allow load drop. Moreover, the CAISO acknowledges that the only overload shown for Alternative J that is not also an overload with the SOCRE Project, is wholly mitigated by the Trabuco second transformer alternative.[76] Thus, while the CAISO claims to have found additional thermal overloads "caused by Alternative J," the evidence the CAISO relies on shows that there are also thermal overloads of nearly identical magnitude during the contingencies presented for the SOCRE Project and other alternatives. Thus, Alternative J cannot be said to cause the thermal overloads.

The CAISO also argues that an additional 100 MW of generation or storage would be required for the San Diego area as a consequence of the slight (2%) additional overload of the parallel 230 kV SCE-owned lines caused by Alternative J in a P6 contingency. However, as described in Exhibit CAISO-505 (at 4), CAISO's 2015-2016 Transmission Planning Process identified overload and voltage stability concerns on SCE's adjacent Ellis-Santiago and Ellis-Johanna 220 kV lines and the Johanna/Santiago/Ellis substations for the same NERC Category P6 contingencies. Based on the CAISO's own studies, it appears these concerns could be addressed by implementing 2107 MW of preferred resources and energy storage as mitigation. The need for the 2107 MW is irrespective of the SOCRE project, and Alternative J's requiring an additional 100 MW is a small fraction of the resources already required regardless of which project is selected.

While the CAISO claims to have reviewed whether these issues could be resolved by the institution of an SPS, and found that such an SPS would be infeasible (as it would trigger an exceedingly complex SPS that would not meet

[76] Tr. at 349, Lns 4-7.

the CAISO Planning Standards), when repeatedly asked about this issue during hearings the CAISO witness was unable or unwilling to provide a clear explanation of his reasoning.[77] Ultimately however, the CAISO acknowledged that a second transformer at Trabuco would mitigate its overloading concerns.[78]

In addition to agreeing with the CAISO's general opposition to Alternative J, SDG&E opposes the Talega addition on claims that there is not sufficient space at the facility to allow the necessary construction.[79] SDG&E's contention in this regard appears based on a company standard which SDG&E failed to document and itself does not appear to follow.[80]

2.4.8.2. Costs

SDG&E estimates that Alternative J will cost $404- $492 million.[81] At first blush the CAISO appears to lend credibility to SDG&E's claim as it states, "[t]aking into account the costs of reconfiguring the 138 kV bus, the costs of the Trabuco alternative would be greater than SOCRE Project."[82] However, the CAISO's contention in this regard cannot be given much weight as the CAISO witness acknowledged that he was deferring to SDG&E's cost analysis and did not perform any such calculation himself.[83]

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[77] Tr. page 336, at 23-26.

[78] Tr. page 349, at 4-7.

[79] Tr. Vol. 7, page 1027, at 7-16.

[80] FRONTLINES provided evidence showing that SDG&E parked an office trailer for up to a year in the same space it asserts must be kept clear. See Tr. Vol . 7, page 1070, at 4-20.

[81] SDG&E Rebuttal Testimony at 16.

[82] CAISO Reply Brief at 9.

[83] Tr. at 435, ln. 6-11.

In marked contrast to SDG&E, FRONTLINES calculates the total cost for this alternative to be $91 million, less than one-quarter of SDG&E's estimate.[84] According to ORA, this substantial difference results from SDG&E's greatly inflating the cost estimate for Alternative J. At hearings, ORA established that in addition to a 10% error range, SDG&E factored in a 30% contingency in estimating most of the Alternative J costs.[85] According to ORA the Trabuco Alternative would cost $27.6 million, significantly less than the SOCRE project.[86] Consistent with this claim ORA notes that, compared to the SOCRE Project which would construct 7.5 miles of double circuit 230 kV transmission lines and would upgrade the 138 kV Capistrano Substation to 230 kV, Alternative J would construct only approximately 2,000 feet of 230 kV transmission lines and upgrade the 138 kV Trabuco Substation to 230 kV.[87]

A significant element of the costs of Alternative J is the potential addition of a second 230/138 transformer at Trabuco Substation. As described in FRONTLINES' testimony, this addition to Alternative J involves the construction of a new 230 kV substation which includes two high capacity (392) MVA transformers in a "breaker and a half" configuration on the 2.3 acre parcel north of the existing Trabuco distribution substation.[88]

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[84] FRONTLINES Opening Brief at 50.

[85] ORA Opening Brief at 29.

[86] ORA's projected cost uses only one 392 transformer, and does not account for any rebuilding at Capistrano, or reconfiguration at Talega. See Exh. ORA-200-R at 21.

[87] Exhibit ORA-200 at 12.

[88] This is identified in the RDEIR as part of Alternative J – the Trabuco Alternative, and discussed in FRONTLINES Exhibit 401C Section 4.2 beginning on page 13 at 15. This addition also includes modifications at Talega that remove existing transformers 60 and 62 (which are old devices near the end of their useful lives) and place the two high capacity (392 MVA)

Footnote continued on next page

In opposition to this addition to Alternative J, SDG&E argues that the Alternative J addition will require the acquisition of additional land, additional transmission planning studies to determine the full impacts on the interconnected electric grid, additional CAISO and perhaps CPUC approvals, upgrades to SDG&E's 138 kV system, and possibly other "Reliability Upgrades."[89] While SDG&E argues that the costs associated with these requirements are unknown, it estimates that these costs will be significant.[90]

While the proceeding record is sufficient to allow us to conclude that the need for this addition to Alternate J is not particularly urgent,[91] we lack sufficient information to assess the legal hurdles, likely costs, and ultimate feasibility of such an endeavor. Therefore, rather than adopt the Alternative J addition of a second transformer at the Trabuco Substation at this time, SDG&E should be directed to undertake the aforementioned studies and identify any legal and regulatory requirements, specify any upgrades to its 138 kV system it foresees, and file an application for the addition, if Alternative J is adopted.

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transformers in a "breaker and a half" configuration. In addition, the transformer connections at Talega would be rearranged so that they terminate in different bays on both the 230 kV side and the 138 kV side.

[89] SDG&E Reply Brief at 4-5, citing Exh. SDG&E 4 (Second Supp. Testimony at 28-29, 41-43, and 72-73); and Exh. SDG&E 2.2 (Supp. Test. at 113-15), and Second Rebuttal Testimony at 17-22, 24-29 (Attachment 62).

[90] Ibid.

[91] SDG&E assumes a load forecast in its models that is consistently higher than those used by the CAISO and CEC, the latter of which is widely acknowledged as the leading authority on load forecasts. SDG&E also assumes 0 Additional Achievable Energy Efficiency, which differs from practices currently used by the CAISO for transmission planning. SDG&E also finds overloads as a result of extreme northbound flows on path 43 and a single transformer at Trabuco. It should be noted that even in SDG&E's severe South Orange County load and path 43 flow scenarios, only Category C overloads are seen. Load shedding is allowed to mitigate such overloaded elements.

2.4.8.3. Loop Flow

SDG&E asserts that its power flow analyses show that the SCE interconnection called for under this alternative can cause loop flow.[92] SDG&E cites testimony provided by it and the CAISO noting concerns about likely adverse impacts from paralleling SDG&E's 138 kV and SCE's 220 kV systems.[93]

As an initial matter we note that each of the three sources SDG&E relies upon proves questionable under scrutiny. For example, though SCE is not a party to this proceeding, SDG&E attempts to represent SCE's opinion where it claims "SCE expressed concerns about likely adverse impacts from paralleling the SDG&E's 138 kV and SCE 220 kV systems." Even more problematic is SDG&E's claim that, "due to the ALJ's 40 page brief limit" each point supporting its loop flow contention is discussed in detail in its Second Supplemental Testimony.[94] Unfortunately, after thus incorporating its testimony by reference, SDG&E foregoes any attempt to address its seeming inability or unwillingness to defend this testimony on cross-examination of its witnesses during hearings. As noted by FRONTLINES:

> It should also be noted that SJC submitted discovery requests to SDGE asking whether SDGE's "loop" flow concerns under the Trabuco Alternative could be addressed by opening up the Trabuco transformer circuits, but SDGE did not answer [see responses to questions 9 and 10 in SJC Exhibit 310]. During evidentiary hearings, SJC again asked SDGE if the "loop" flow issues could be resolved by

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[92] SDG&E Reply Brief at 36-37 citing Exh. SDG&E-5 (2nd Rebuttal Testimony at 24-29).

[93] Exh. SDG&E 5 (2nd Rebuttal Testimony at 2-4, 21-29); Exh. CASIO 505 (Sparks Supp. Rebuttal Testimony at 4-7).

[94] That SDG&E both agreed to this page limit and made no effort to address this issue in its Opening Brief (which was under the agreed upon page limit) further call this explanation into question.

> opening the Trabuco transformer, and again, there was no answer. During the hearings, SJC, ORA and FRONTLINES made numerous attempts to get SDGE and CAISO witnesses to consider this simple solution to the "loop" flow problem, but none of these attempts were successful. In fact, the record indicates that this simple solution has been sidestepped at every opportunity.[95]

Consistent with FRONTLINES' assertion, the record of the proceeding confirms that SDG&E's witnesses were repeatedly chided for providing answers that were evasive, obstructionist, and generally lacking credibility.[96] The third source SDG&E sites in support of this contention, testimony by the CAISO, is similarly flawed. In addition to being similarly admonished by the ALJ for providing evasive answers, the CAISO witness indicated that using SPS to eliminate loop flow overloads in South Orange County was not analyzed by CAISO but deemed "not feasible because SPS was presumed not to meet CAISO guidelines."[97] Notably, on further cross-examination the CAISO witness could not identify a single standard that would be violated by using SPS to open up the Trabuco transformers.[98]

Though hampered by less than cooperative witnesses, ORA, FRONTLINES, and SJC provide cogent rebuttals to the loop flow issue identified by SDG&E. According to ORA, while loop flow can be an issue under Alternative J[99] such loop flow issues only become a concern in the unlikely event

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[95] FRONTLINES Opening Brief page 18-19.

[96] Both SDG&E and the CAISO witnesses were repeatedly admonished to provide responsive answers on cross examination (see e.g. Tr. at 859-871 and at 1091).

[97] *Id.* and see FRONTLINES Opening Brief page 19, Fn. 61.

[98] Tr. page 341 at 25, and page 343 at 6.

[99] See ORA Opening Brief at 38-40.

that there is "no load at all in the SOC [South Orange County] area" and these loop flow issues can be mitigated by installing Special Protection Systems.[100] ORA concludes, "[l]oop flow and path rating issues of the Trabuco Alternative are of minimal concern."[101]

For its part, FRONTLINES points out that the CAISO's witness confirmed that opening the transformer connection at Trabuco would indeed reduce the flow out of Trabuco to zero, and eliminate any overload created by loop flow through the transformer.[102] FRONTLINES notes that SDGE does not dispute its testimony that loop flow through South Orange County can be eliminated by disconnecting South Orange County from the Santiago- Trabuco line when extreme circumstances occur.[103]

Given the record developed over the course of the proceeding on this issue, we conclude that it is difficult, if not impossible, to absolutely avoid loop flow issues when there are multiple power sources to a local area. Where SDG&E highlights the likelihood of loop flow issues and overstates the difficulty

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[100] ORA Exh. 201, page 7, at 6-7.

[101] ORA 201, page 6, at 12-13. SDG&E claims to have responded to these and other contentions ORA makes in its Opening Brief in its Second Rebuttal Testimony (pages 13-29) which was filed before hearings or briefs.

[102] Tr. page 343, at 18, and page 343 at 10.

[103] FRONTLINES rebuttal testimony clearly identifies "opening the Trabuco-Santiago circuit" as a remedy to eliminate flow out of South Orange County to SCE (aka "loop" flow) [Exhibit 401 page 6 at 20]. This FRONTLINES testimony was never refuted in the record by either SDG&E or CAISO via exhibits or during cross examination of the FRONTLINES witness [see transcript pages 1324-1371].

of addressing these issues as they relate to Alternative J,[104] SDG&E ignores the loop flow issues associated with the SOCRE Project entirely.[105]

2.4.8.4. Alternative J Conclusion

While Alternative J is likely imperfect, the criticisms of this alternative by the CAISO and SDG&E are poorly presented, inconsistent, and/or without basis. As a general matter, the CAISO opposes Alternative J on claims that it would modify the South Orange County system in a way that causes single contingency load shedding that does not exist today and so, would be an unacceptable degradation of customer service.[106] However, this contention fails to account for the load carrying ability of the proposed Talega modification, or the addition of a second 230/138 transformer at Trabuco, either of which would mitigate these concerns. Similarly, the cost estimates for Alternative J provided by SDG&E and relied upon by the CAISO appear unrealistic and excessive. In particular, while SDG&E's recommendations going to the standardization of upgrades to the Trabuco substation warrant consideration, since neither the ISO nor SDG&E has fully studied Alternative J, the full extent of these associated costs is unknown. Thus, while we deem the cost estimates for this project provided by SDG&E excessive, we acknowledge the likelihood of project costs beyond those identified by FRONTLINES.

On balance, the cost uncertainties associated with Alternative J are decisively outweighed by the benefits offered by this alternative. Specifically, in

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[104] Exh. SDG&E-4 page 37 at 2, SDG&E acknowledges that a synchronous condenser at Trabuco could prevent any loop flow, but identifies this approach as potentially expensive.

[105] See, e.g., Tr. page 1244:3 – 1246:4 (Vol. 8).

[106] CAISO Opening Brief pages 17-18, citing Exhibit CAISO-504, pages 2-3.

addition to being identified as having the fewest adverse environmental impacts in the Final EIR, the CEQA review of the applicant's power flow data indicates that Alternative J would ensure that each of the potential Category C (N-1-1) contingencies identified by the applicant and the CAISO would be avoided through the 10-year planning horizon (consistent with Objective 1 in the EIR), equipment at Capistrano Substation found to be inadequate would be replaced (consistent with Objective 2 in the EIR), power flow within the applicant's South Orange County 138-kV system would be redistributed (consistent with Objective 3 in the EIR), and there is no risk of a significant (>75 MW) loss of load under a single contingency. In addition, with changes at Talega and the installation of two transformers at Trabuco, South Orange County would be served by four high capacity transformers configured in a breaker and a half arrangement.[107] With this configuration no load will be dropped if a Category D contingency event occurs at either Trabuco or at Talega, giving the Alternative J addition a level of reliability unmatched by the SOCRE Project or any other alternative. Consistent with the findings in the Final EIR and the record developed over the course of hearings, a CPCN should issue directing SDG&E to begin implementation of Alternative J.

3. Comments on Proposed Decision

The Proposed Decision in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure.

[107] Tr. at 1016, lns. 16 – 25.

Comments were filed on _____, and Reply Comments were filed on _____, by _____.

4. Assignment of Proceeding

Michael Picker is the assigned Commissioner and Darwin E. Farrar is the assigned Administrative Law Judge in this proceeding.

Findings of Fact

1. The SDG&E South Orange County service area is located at the northern end of SDG&E's service territory and has more than 129,000 electric customers.
2. The South Orange County service area represents approximately 10% of SDG&E's total customer load.
3. In its 2010 - 2011 transmission planning process the CAISO identified a reliability need in the South Orange County area.
4. In accordance with the applicable CAISO tariff, SDG&E submitted a potential solution to the CAISO's reliability concern during the 2010 Request Window.
5. On May 18, 2012 SDG&E filed its Application for a CPCN for the SOCRE Project.
6. As proposed, the SOCRE Project has an estimated cost of approximately $381 million.
7. Protests to SDG&E's Application were filed on June 20, 21, and 22, 2015 by ORA, SJC, and FRONTLINES, respectively.
8. In July 2014, the Commission's Energy Division staff issued its California Environmental Quality Act Alternatives Screening Report.
9. The alternatives screening process identified and reviewed the following 11 potential alternatives to the SOCRE Project:
    a. Alternative A – No Project.

b. Alternative B1 – Reconductor Laguna Niguel–Talega 138-kV Line

c. Alternative B2 – Use of Existing Transmission Lines (Additional Talega–Capistrano 138-kV Line).

d. Alternative B3 – Phased Construction of Alternatives B1 and B2.

e. Alternative B4 – Rebuild South Orange County 138-kV System.

f. Alternative C1 – SCE 230-kV Loop-in to Capistrano Substation.

g. Alternative C2 – SCE 230-kV Loop-in to Capistrano Substation Routing.

h. Alternative D – SCE 230-kV Loop In to Reduced-Footprint Substation at Landfill.

i. Alternative E – New 230-kV Talega–Capistrano Line Operated at 138 kV.

j. Alternative F – 230-kV Rancho Mission Viejo Substation.

k. Alternative G – New 138-kV San Luis Rey–San Mateo Line and San Luis Rey Substation Expansion.

10. On April 25, 2016 the final EIR issued.

11. All the Alternatives identified in the EIR would meet project Objectives 1 and 2 as defined in Section 1.3.1 of the EIR, and ensure each of the potential Category C (N-1-1) contingencies identified by the applicant and CAISO would be avoided through the 10-year planning horizon.

12. EIR Alternatives A, B.1, B.2, B.3, and B.4 would not redistribute the power flow of the applicant's South Orange County 138-kV system as required by EIR Objective 3.

13. The EIR identifies the significant adverse impacts of the SOCRE Project, as well as a reasonable range of alternatives to a proposed project that feasibly attain most of the basic project objectives but avoids or substantially lessens any of the significant effects of the project.

14. Comments on the Recirculated DEIR were received over a 45-day period starting August 10, 2015, and ending September 24, 2015.

15. SDG&E originally claimed that its 2014 forecast showed South Orange County load reaching 490 MW beyond 2023.

16. Recorded peak load on the South Orange County 138-kV system has dropped each year since 2007.

17. The existing system is capable of handling 400 to 499 MW of power during normal conditions and 500 MW or more during temporary peak load conditions.

18. The rated capacity of the 138-kV system is approximately 580 MW.

19. The applicant's current power flow data do not indicate that system loads may exceed 500 MW until after 2024.

20. The applicant does not forecast that any of the 138/12-kV substations within its South Orange County 138-kV system would exceed their operating capacity through 2024.

21. The peak load assumption upon which the CAISO approved the SOCRE Project in 2011 which assumed a 2020 Peak load of 525 MW, is unrealistic.

22. The 2015 Peak load in South Orange County was actually only 415 MW.

23. The CAISO updated its Net Peak Load forecast for South Orange County since approving the SOCRE Project in 2011.

24. The CAISO now predicts a 446 MW peak load in 2024 and a 453 MW peak load in 2025.

25. SDG&E's January 2015 load forecast assumed a 2023 peak South Orange County load of 481 MW which is higher than the CAISO's most recent forecast.

26. SDG&E's January 2015 forecast was revised upward to project a 3% higher 2023 peak South Orange County load of 494 MW, while the CAISO forecast was revised downward.

27. SDG&E's January 2015 forecast is unreliable.

28. The South Orange County 138 kV facilities are under CAISO operational control.

29. The NERC TPL-001-4 limitation of load loss to a maximum of 75 MW only has a significant impact on project alternatives that risk a significant (>75 MW) loss of load under a single contingency.

30. While the SOCRE Project might mitigate outage risks to the entire South Orange County posed by the maintenance scenarios posited by SDG&E, it does not and cannot prevent all possible outages.

31. There are outage risks to the South Orange County area that SDG&E has failed to identify that are better addressed by project alternatives other than the SOCRE Project.

32. The No Project Alternative does not satisfy the new NERC reliability standards.

33. Alternatives A, B.1, B.2, B.3, and B.4 would not redistribute the power flow of the applicant's South Orange County 138-kV system.

34. The No Project Alternative represents the status quo and, consequently, would result in no environmental impacts over existing baseline conditions.

35. The final EIR identifies the environmentally superior alternative other than the No Project Alternative as Alternative J.

36. All power flow inputs and load forecast data used in the Screening Report analysis were provided by SDG&E.

37. The projected load growth which was initially driving the SOCRE Project has not materialized and is not anticipated to materialize in the relevant planning horizon.

38. SDG&E's 2014 need forecast is excessive and inaccurate.

39. The SOCRE Project will mitigate outage risks to the entire South Orange County posed by the maintenance scenarios posited by SDG&E.

40. There are outage risks which SDG&E failed to identify that are better addressed by project alternatives other than the SOCRE Project.

41. It is difficult, if not impossible, to absolutely avoid loop flow issues when there are multiple power sources to a local area.

42. The No Project alternative carries the risk of a significant (>75 MW) loss of load under a single contingency.

43. Alternatives B.1, B.2, B.3 and B.4 carry the risk of a significant (>75 MW) loss of load under a single contingency.

44. Alternatives C.1, C.2, and D carry the risk of a significant (>75 MW) loss of load under a single contingency.

45. No party specifically supports option E.

46. To meet NERC and CAISO planning standards, in addition to the Alternative F improvements, Alternative F would need to be modified to upgrade the 138 kV line between Talega and Laguna Niguel.

47. To meet NERC and CAISO transmission planning standards, Alternative G would need to have the 138 kV lines between Talega and Laguna Niguel and between Talega and Pico upgraded.

48. In addition to a 10% error range, SDG&E factored in a 30% contingency in estimating most of the Alternative J costs.

49. A potentially significant element of the costs of Alternative J is the addition of a second 230/138 transformer at Trabuco Substation.

50. Alternative J has fewer adverse environmental impacts than the SOCRE Project or any of the project alternatives.

51. Alternative J ensures that each of the potential Category C (N-1-1) contingencies identified by SDG&E and the CAISO would be avoided through the 10-year planning horizon (consistent with Objective 1),

52. Alternative J allows for the equipment at Capistrano Substation found to be antiquated or inadequate to be replaced (consistent with Objective 2).

53. Alternative J allows for power flow within the applicant's South Orange County 138-kV system to be redistributed (consistent with Objective 3).

54. Alternative J does not carry the risk of a significant (>75 MW) loss of load under a single contingency.

55. With changes at Talega and the installation of two transformers at Trabuco, under Alternative J no load will be dropped if a Category D contingency event occurs at either Trabuco or Talega.

56. The changes at Talega and the installation of two transformers at Trabuco afford Alternative J a level of reliability unmatched by the SOCRE Project or any other project alternative.

57. Alternative J will enhance the safety and reliability of service to the South Orange County service area.

Conclusions of Law

1. Portions of the DEIR were revised with new information, and the revised chapters and sections were recirculated in a manner consistent with the provisions of Section 15088.5 of the CEQA Guidelines.

2. The EIR examines the environmental impacts of the proposed project and a number of alternatives, including the No Project Alternative; it identifies their significant and unavoidable environmental impacts and the mitigation measures that will avoid or substantially lessen them, where possible, and identifies the environmentally superior alternative as required by CEQA.

3. Substantial evidence supports the EIR findings.

4. The EIR was completed in compliance with CEQA.

5. The EIR identifies the significant adverse impacts of the proposed project, as well as a reasonable range of alternatives that feasibly attains most of the basic project objectives but avoids or substantially lessens any of the significant effects of the project.

6. The CPUC is the Lead Agency as defined by CEQA.

7. The CPUC prepared a DEIR for the SOCRE Project and circulated the DEIR for public comment for a 45-day period (beginning February 23, 2015, and ending April 10, 2015) as required by CEQA.

8. The environmentally superior alternative is the No Project Alternative.

9. The EIR identifies Alternative J as the environmentally superior alternative other than the No Project Alternative.

10. We have reviewed and considered the information contained in the final EIR.

11. The final EIR reflects the independent judgment of the Commission.

12. The applicant for a CPCN has the burden of affirmatively establishing the reasonableness of all aspects of its application.

13. Intervenors do not have the burden of proving the unreasonableness of the applicant's showing.

14. SDG&E's 2015 need forecast should not be adopted at this time.

15. As of January 1, 2016, NERC TPL-001-4 is the enforceable, governing standard for transmission system planning performance requirements.

16. NERC TPL-001-4 does not allow non- consequential load loss after a single contingency event in the long-term transmission planning horizon.

17. NERC TPL-001-4 limits load-drop under single contingencies to 75 MW.

18. Pub. Util. Code § 1001 places an ongoing responsibility on this Commission to evaluate the public convenience and necessity of proposed transmission projects, and therefore we independently assess the proceeding record to determine whether projects or alternatives are appropriate on the basis of reliability, safety, and economics.

19. The 2016 NERC standard does not impact the single contingency feasibility of Alternatives F, G, and J.

20. The No Project alternative does not appear to be consistent with the 2016 TPL-001-4 NERC reliability standard.

21. Alternatives B.1, B.2, B.3 and B.4 do not appear to be consistent with the 2016 TPL-001-4 NERC reliability standard.

22. Alternatives C.1, C.2, and D do not appear to be consistent with the 2016 TPL-001-4 NERC reliability standard.

23. Alternative J is meets or exceeds all Commission standards for the issuance of a certificate of public convenience and necessity.

24. As part of the implementation of Alternative J, equipment at Capistrano Substation found to be inadequate should be replaced.

25. A CPCN should issue directing SDG&E to begin implementation of Alternative J.

26. SDG&E should be directed to undertake the studies to identify any legal and regulatory requirements, specify any necessary upgrades to its 138 kV system, and file an application for the two transformer addition related to Alternative J.

O R D E R

IT IS ORDERED that:

1. The San Diego Gas & Electric Company's request for a Certificate of Public Convenience and Necessity to construct the South Orange County Reliability Enhancement Project is denied.

2. The San Diego Gas & Electric Company is granted a Certificate of Public Convenience and Necessity for, and shall begin to implement, Alternative J (the Trabuco Alternative) with the Talega modification set forth herein.

3. The San Diego Gas & Electric Company shall undertake to identify any legal and regulatory requirements, specify any necessary upgrades to its 138 kilovolt system, and file an application for the two transformer addition related to Alternative J.

4. As part of the implementation of Alternative J, equipment at Capistrano Substation found to be antiquated or inadequate may be replaced.

5. All pending motions are hereby deemed denied.

6. This proceeding is closed.

This order is effective today.

Dated _____, at San Francisco, California.

APPENDIX A

SERVICE LIST

********** SERVICE LIST A1205020**********
Last Updated on 23-SEP-2016 by: AMT

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